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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,795	12/21/2001	Yutaka Nanno	OGOH:104	1949

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EXAMINER	
HU, SHOUXIANG	
ART UNIT	**PAPER NUMBER**
2811	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/018,795	NANNO ET AL.	
	Examiner	Art Unit	
	Shouxiang Hu	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 23-26 are objected to because of the following informalities and/or defcts:

Claim 23 recites the term of "OFF current", but fails to clarify which device's or component's off-state current it refers to.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunii in view of Tanaka et al. ("Tanaka"; US 6,635,505), Applicant's admitted prior art ("AAPA") and/or Ohta et al. ("Ohta"; US 6,532,053).

Kunii discloses a liquid crystal display device which naturally includes a liquid crystal panel portion that naturally includes thin film transistors (TFTs; Figs. 1-4, also see col. 8, lines 47-48, col. 9, lines 55-57, and col. 11, lines 35-36), wherein the TFT each comprises a polysilicon layer (102) including a channel region (2) and LDD region or regions (6) between S/D regions therein, wherein the width and length of the channel can both be of 3 microns.

Although Kunii does not expressly disclose that the liquid crystal can be a TN type, it is noted that TN-type liquid crystal is an art-recognized common liquid crystal in a TFT display device with good display performance, as evidenced Tanaka (see col. 1, lines 30-33).

Although Kunii does not expressly disclose that the sheet resistance of the LDD region can be about 20 kΩ/□ to 100 kΩ/□, one of ordinary skill in the art would readily recognize that the sheet resistance of the LDD region in TFT is a well-recognized parameter of importance subject to routine experimentation and optimization, that the art-recognized normal range of the sheet resistance of the LDD region is about 20 kΩ/□ to 100 kΩ/□, as evidenced in AAPA (see page 3, lines 6-9).

Although Kunii does not expressly disclose that the TFT display device can further comprise a backlight having a brightness of about 2000 cd/m^2 or higher, Ohta teaches that a TFT display device commonly includes a backlight with a brightness that can be 3000 cd/m^2 (see col. 3, line 60) for achieving adequate display brightness.

Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to incorporate a common TN-type liquid crystal as shown in Tanaka, a sheet resistance of the LDD region in a normal range of about 20 kΩ/□ to 100 kΩ/□ as shown in AAPA, and/or a backlight brightness with brightness of about 3000 cd/m^2 as shown in Ohta, so that a TFT display device with good and/or optimized display performance would be obtained. And, in such a collectively taught device, the inequalities recited in claim 23 would be naturally met (i.e., (100+30)x3 is less than 1000).

In addition, although the LCD device collectively taught above does not expressly disclose the limitation of "so that the photoelectric current range of the display device is thereby regulated to suppress OFF current during irradiation of the display device with light." However, it is noted that it is an intended-use limitation; and that the recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). As the device collectively taught above would have met all the structural and material limitations of the instant invention, it would naturally be able to result in the photoelectric current range of the display device to be thereby regulated to suppress OFF current during irradiation of the display device with light.

Regarding claim 24, it is noted that the channel width is an art-recognized parameter of importance subject to routine experimentation and optimization, and that a small channel width desirably helps to reduced the size of the TFT, and that the channel width of a TFT can be readily as small as 2 microns or less, as evidenced in Yamazaki et al. (US 6,218,219; of record; see col. 9, 18-22 and col. 25, 66-67).

Response to Arguments

3. Applicant's arguments filed on 12/17/2004 have been fully considered but they are not persuasive, as explained below:

Applicant's main arguments include: the applied prior art references do not teach or suggest the recited feature of display device configured so that it meets the limitation that the photoelectric current range of the display device is thereby regulated to suppress OFF current during irradiation of the display device with light. However, as noted in the obviousness rejections set forth above in this office action, it is an intended-use limitation. And, the recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). In this case, the device collectively taught by the applied prior art references would have met all the structural and material limitations of the instant invention. Thus, it would naturally be able to perform the intended use of having the photoelectric current range of the display device regulated to suppress OFF current during irradiation of the display device with light.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH
March 16, 2005

SHOUXIANG HU
PRIMARY EXAMINER